



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,779	10/02/2003	Richard J. Roby	3858-008-27	1725

7590 03/29/2005

Supervisor, Patent Prosecution Services  
PIPER RUDNICK LLP  
1200 Nineteenth Street, N.W.  
Washington, DC 20036-2412

EXAMINER

HUANG, SIHONG

ART UNIT PAPER NUMBER

2632

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/676,779

Applicant(s)

ROBY ET AL.

Examiner

Sihong Huang

Art Unit

2632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2003.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-34 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/16/03.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 30-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 30, lines 6-7, “the transceiver” lacks antecedent basis.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 10 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Kyouno et al. (US Pat. No. 6,087,960).

Regarding claim 1, Kyouno et al disclosed a method for detecting an audible sound which can include alarm sounds (col. 2, line 31) comprising: a first parameter examining step (e.g., 75), a second parameter examining step (e.g., 81); a comparing step (e.g., 95a) and declaring an audible sounds detection if both the first and second parameters coincided with a pattern set in the pattern generating circuit (col. 14, lines 14-19). See Fig. 13. Also see Figs. 15, 17 and 19. As to the preamble “for detecting a smoke detector alarm” is merely a statement of intended use. The detector inherently can be used to detect sounds from smoke detector alarm.

Regarding claim 2, Kyouno et al disclosed selecting a pattern to be a set pattern (col. 14, line 39-40). Therefore, it varies temporally when different patterns are selected.

Regarding claims 3 and 15, Fig 14, for example, shows the sounds are sampled for a number of sample periods within the period of time. Also, see Figs. 16, 18 and 20.

Regarding claim 10, the method of Kyouno et al further includes single parameter examining step (e.g., 60), delaying step (that is, if the output from 130 does not trigger switch 65, it will wait for next sound sampling for comparison, therefore, it delays for a period of time, and the steps of examining the first and second parameters are only performed if there is a possibility that an audible sound may be present (that is, only if the output from comparator 60 is high enough to activate the switch).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kyouno et al. (US Pat. No. 6,087,960).

Regarding claim 6, although Kyouno et al do not disclose correlating the first parameter to the second parameter, Kyouno et al do teach doing auto-correlation for one of the two parameters (81). Kyouno et al further teach that applying correlation function increases the efficiency of accident sound discrimination since sound is generally an impactive signal, and an auto-correlation value is extremely low (col. 11, lines 35-44). Based on this teaching, it would

Art Unit: 2632

have been obvious to a person having ordinary skill in the art at the time of the invention to correlate the first and second parameters to increase the efficiency of sound discrimination.

Regarding claim 7, Kyouno et al disclosed that the first and second parameters are at a value corresponding to an on portion of an audible sound (col. 14, lines 17-19).

7. Claims 4, 5, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kyouno (US Pat. No. 6,087,960) in view of Bernstein et al. (US Pat. No. 4,956,866).

Kyouno et al disclosed that both parameters are coincided with the set pattern, the input signal is judged to be an accident sound which is outputted. If both are matched, then the second parameter is also at a value corresponding to an on portion of audible sound. Kyouno et al do not disclose the limitations of claims 4, 5, 8 and 9. However, Bernstein et al, from the same field of endeavor, teach a method of detecting sounds which includes steps of determining a maximum peak amplitude (40) and an amplitude threshold (e.g., an average, 26-28 and 41) and comparing each peak to the threshold (43). Bernstein et al further disclosed determining the frequency of sound (col. 8, lines 21-22) and the peak is some given percentage above the average (col. 8, lines 40-42). Based on this teaching, it would have been obvious to a person having ordinary skill in the art at the time of the invention to apply the teaching of Bernstein et al to the method of Kyouno et al in order to improve sound detection (col. 4, lines 56-57).

8. Claims 30 and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson (US Pat. No. 5,999,089) in view of Banga (US Pat. No. 5,889,468).

Regarding claim 30, Carlson disclosed a smoke detector comprising: a smoke detection circuit (col. 3, lines 35-37 or 26), a microphone (36), an alarm device (32) and a processor (40, 44, 42, 46, 48 and 30); wherein the microphone and the processor configured to analyze ambient

Art Unit: 2632

sound from another smoke detector and activate the alarm device upon receipt of either an indication that a fire has occurred from the smoke detection circuit (26) or a detection of an audible alarm from another detector (col. 4, lines 34-65 and Fig. 3).

Carlson differs from claim 30 in that Carlson does not show a transmitter. However, as taught by Banga, providing a transmitter unit in a smoke detector (Fig. 2 and col. 5, lines 56-57) for transmitting alarm condition to a remote location or monitor is extremely well known in the art. Based on this teaching, it would have been obvious to a person having ordinary skill in the art at the time of the invention to incorporate such transmitter unit of Banga to the detector of Carlson in order to allow the detector of Carlson to transmit alarm condition to a remote alarm or a remote monitoring station.

Regarding claim 32, the combination of Carlson and Banga shows a remote alarm device (Fig. 3) with an audible alarm (68).

Regarding claim 33, the combination of Carlson and Banaga also includes a receiver (30).

Regarding claim 34, the alarm device of Carlson is a speaker 32.

9. Claims 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson (US Pat. No. 5,999,089) in view of Hajel (US Pat. No. 5,867,105).

Regarding claim 30, Carlson disclosed a smoke detector as discussed above and differs from claim 30 in that Carlson does not show a transmitter. However, as taught by Hajel, providing a transmitter unit in a smoke detector (50) for transmitting alarm condition to a remote location or monitor is extremely well known in the art. Based on this teaching, it would have been obvious to a person having ordinary skill in the art at the time of the invention to

Art Unit: 2632

incorporate such transmitter unit of Hajel to the detector of Carlson in order to allow the detector of Carlson to transmit alarm condition to a remote alarm (30). The remote alarm device is a tactile alarm (40). One motivation for doing this is to allow hearing impaired persons to aware of the alarm or fire condition.

10. Claims 1, 11, 12, 14, 16-18, 21, 22, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blunt (US Pat. No. 5,651,070) in view of Kyouno et al. (US Pat. No. 6,087,960).

Blunt disclosed a device for detecting a smoke detector audible alarm (see Fig. 4) comprising: a microphone (26), a processor (30, 32, 39, 104, 108, etc.) and a tactile alarm device (128) connected to the processor via link 126 and alarm device (32); wherein the detected ambient sound information is compared with the stored information to activate the tactile alarm device (128). Blunt differs from claims 1, 11, 16 and 26 in that Blunt does not disclose the method recited in claims 1 and 16. However, as discussed above, Kyouno et al teach such. Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to employ the sound determining method as taught by Kyouno et al to the device of Blunt in order to increase the efficiency of sound discrimination (col. 11, lines 37-38).

Regarding claims 12 and 14, Blunt further disclosed sending an activation message to a remote device (128).

Claims 17, 18, 21, 22 and 25 are rejected for the same reason as for claims 2, 3, 6, 7, 10 respectively as discussed above.

Art Unit: 2632

11. Claims 13 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blunt in view of Kyouno et al. as applied to claims 1 and 16 above, and further in view of Banga (US Pat. No. 5,889,468).

The combination of Blunt and Kyouno further differs from claims 13 and 27-29 in that it does not disclose the limitations of these claims. However, Banga teaches such (col. 6, lines 19-21, element 12 of Fig. 1 and elements 30 and 38 of Fig. 2). Based on this teaching, it would have been obvious to a person having ordinary skill in the art at the time of the invention to apply the teaching of Banga to the combination device of Blunt and Kyouno in order to allow the combination device to receive signal from other smoke detector alarms and allow the alarm signal to transmit to remote monitoring location.

12. Claims 19, 20, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blunt in view of Kyouno et al. as applied to claim 16 above, and further in view of Bernstein et al. (US Pat. No. 4,956,866).

The combination of Blunt and Kyouno et al does not disclose the limitation of these claims. However, Bernstein et al, from the same field of endeavor, teach a method of detecting sounds which includes steps of determining a maximum peak amplitude (40) and an amplitude threshold (e.g., an average, 26-28 and 41) and comparing each peak to the threshold (43). Bernstein et al further disclosed determining the frequency of sound (col. 8, lines 21-22) and the peak is some given percentage above the average (col. 8, lines 40-42). Based on this teaching, it would have been obvious to a person having ordinary skill in the art at the time of the invention to apply the teaching of Bernstein et al to the method of the combination in order to improve sound detection (col. 4, lines 56-57).



Art Unit: 2632

*Conclusion*

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

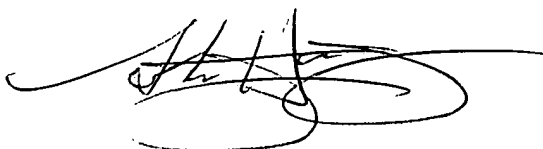
Landais (US Pat. No. 6,384,724 B1), Godwin (US Pat. No. 5,898,369), Acevedo (US Pat. No. 6,420,973 B2), Del Grande (US Pat. No. 4,417,235) and Hill et al. (US Pat. No. 5,287,411) are cited to show other similar inventions.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sihong Huang whose telephone number is 571-272-2958. The examiner can normally be reached on Mon, Thu & Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J. Wu can be reached on 571-272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sihong Huang  
March 18, 2005

A handwritten signature in black ink, appearing to be 'Sihong Huang', written over a horizontal line.